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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/542,952	04/17/2006	David Cressey	3174-01	2038

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EXAMINER	
OLADAPO, TAIWO	

ART UNIT	PAPER NUMBER
1797	

MAIL DATE	DELIVERY MODE
10/06/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/542,952	CRESSEY ET AL.	
	Examiner	Art Unit	
	TAIWO OLADAPO	1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 April 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5, 21, 23 - 37* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5, 21, 23 - 37* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *7/21/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1 – 5, 21, 23, 24, 31 – 37, are rejected under 35 U.S.C. 103(a) as being unpatentable over Moreton et al. (WO 02072529). The column and line numbers used in the rejection below are from the identical US-based reference 6,596,038.

5. In regards to claim 1, Moreton teaches a composition comprising a reaction product of a hydrocarbyl substituted aromatic compound containing carboxylic and hydroxyl groups (calixarenes) and ammonia or amine which are organic nitrogen compounds (column 5 lines 23 – 60) as in the claim.

The first calixarene compound which corresponds to the compound of formula I in the claim, is a structure comprising carboxylic group having a substituent, R^0, which is hydrogen similar to R^4 of the claim; the substituent OH on the benzyl ring is similar to U of the claim (column 5 lines 23 – 60), and the hydrocarbyl group R^5 is a hydrocarbyl group containing 1 to 100 carbon atoms (column 4 lines 52 - 60) which provides an overlapping range of carbons for R^2 in the claim.

The second calixarene compound which corresponds to the compound of formula II in the claim contains a substituent R2, which can be OH group (column 5 line 5) similar to the OH group of the claim when f is 1, R3 can be hydroxyl group containing from 1 to 100 carbons (column 1 lines 61 – 63) similar to the group R4 in the claim when g is 1, groups R1 and R4 can be hydrogen (column 5 lines 3 – 5).

In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); In re Woodruff, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990).

Moreton teaches that the compounds are used in lubricating oils as surfactants and/or antioxidants (column 2 lines 65 - 67) which provides the limitation of (b). Moreton teaches that hetero groups can be nitrogen oxygen or sulfur (column 3 line 35 – 37) but does not teach that the reaction products of the formula necessarily contain sulfur compounds. Thus, the product can be sulfur free.

6. In regards to claim 2, Moreton teaches the composition comprising viscosity modifiers (column 10 lines 49 – 56).

7. In regards to claim 3, Moreton teaches the composition, wherein component (a) is present from about 0.1 to 10% (column 13 lines 1 – 7), oil present up to about 99% (column 13 lines 50 – 54), and other additives can comprise from 0.001 to about 20% of the composition (column 13 lines 30 – 40).

8. In regards to claim 4, 5, Moreton does not particularly recite sulfur or phosphorus based reactants. Although Moreton teach that the lubricating oil optionally be synthetic base oils such as phosphorus-containing acid lubricants (column 11 lines 55 – 65), it is non limiting. Thus, the lubricant can be essentially ashless, sulfur and phosphorus free according to the limitation of the claims.

9. In regards to claims 21, 23, Moreton teaches the composition comprising the component (a)(i) as previously stated, organic nitrogen groups of component a(ii), and (a)(iii) metal containing base (column 6 lines 34 – 40) and lubricating oil as previously stated.

10. In regards to claim 24, 37, Moreton teaches the composition, wherein component (a)(ii) is an ammonium hydroxide or aqueous ammonia, which is a reactive equivalent of ammonia

(column 5 lines 54 – 60). The ammonium hydroxide serves to neutralize the acidic groups of (a)(i) as recited in the applicant's specification (See, specification page 10 lines 25 – 28).

11. In regards to claim 31, Moreton teaches the composition, wherein the component (a)(i) is useful as is in lubricants and fuels without having metals present (Moreton, abstract, column 13 lines 55 – 57).

12. In regards to claims 32, 33, Moreton teaches the composition. In Example 2, Moreton teaches mixing the reactants and heating to form the product that is used in the lubricating oil, thus providing for the steps heating the reactants and adding them to a lubricating which intrinsically performs the recited method. The product formed by the process is also recited according to claim 33.

13. In regards to claims 34, 35, Moreton teaches the method of lubricating a diesel engine or internal combustion engine with the lubricant composition comprising the claimed additive as previously recited, which when added intrinsically performs the properties recited in claim 35.

14. In regards to claim 36, Moreton teaches the reaction product of (a)(i) and (a)(ii) as previously recited.

15. Claims 25 – 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moreton et al. (WO 02072529) in view of Hoke (US 4,090,971)

16. In regards to claims 25, Moreton teaches the composition comprising organic nitrogen groups of component a(ii), a metal containing base (column 6 lines 34 – 40) and lubricating oil as previously stated. Moreton does not particularly recite the compounds in the claim.

Hoke teaches amides of carboxylic acids containing alkyl substituted hydroxyl aromatic groups as in the invention of Moreton (abstract). Hoke teaches that the amides can be prepared

from compounds which react with the carboxylic acids, such as, guanidines (column 2 lines 65 – 68).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have use the amine compounds of Hoke in preparing the carboxylic hydroxyl aromatic amide compounds of Moreton, since Hoke teaches they are suitable carboxylic amide additives for lubricants.

17. In regards to claim 26, Moreton and Hoke combined teach the composition, wherein component (a)(ii) are hydrocarbyl substituted mono amines such as tetra alkyl ammonium hydroxide (Moreton, column 5 lines 54 - 60).

18. In regards to claim 27, Moreton and Hoke combined teach the composition, wherein the component (a)(ii) is a polyamine having ethylene diamine, or ethylene polyamines, i.e. triethylene tetramine (Hoke, column 4 lines 8 – 42).

19. In regards to claim 28, Moreton and Hoke combined teach the composition, wherein the component (a)(ii) are pyrroles, piperidines, pyridines etc (Hoke, column 3 lines 64 – 68).

20. In regards to claims 29, 30, Moreton and Hoke combined teach the composition, wherein the component (a)(ii) is i.e. ethanol amine which are primary aminoalcohols having 1 hydroxyl group and 2 carbons (Hoke, column 3 lines 47 – 55).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TAIWO OLADAPO whose telephone number is (571)270-3723. The examiner can normally be reached on 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571)272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TO

/Glenn A Caldarola/
Acting SPE of Art Unit 1797